2. L. P.

## 534 Rec'd PCT/PTC 30 OCT 2007

## SEQUENCE LISTING

4110 Ono Pharmaceutical Co., Ltd.

 $\leq \! 120 \cdot \! \mathrm{Novel}$  polypeptides, cDNA coding these polypeptides and Use thereof

-130 - ONF-2969PCT

141 - 1999-04-28

· 150 · JP 10-119731

151 1998-04-28

160 - 12

·170 · PatentIn Ver. 2.0

210 . 1

211 448

· 212 · PRT

·213 · Mus musculus

< 4001 - 1

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-23

-20

-15

-10

Leu Pro His Pro Gly Asn Ala Gln Gln Gln Cys Thr Asn Gly Phe Asp

-5

1

5

Leu	Asp	Arg	Gln	Ser	Gly	Gln	Cys	Leu	ı Asp	Пе	Asp	Glu	ı Cys	a Arg	Thi
10					15					20	ı				25
He	Pro	Glu	Ala	Cys	Arg	Gly	Asp	Met	Met	. Cys	Val	Asn	Gln	ı Asn	Gly
				30					35					40	)
Gly	Tyr	Leu	Cys	He	Pro	Arg	Thr	Asn	Pro	Val	Tyr	Arg	Gly	Pro	Tyr
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Pro	Pro	Val	Pro	Ala	Ser	Asn	Tyr	Pro	Thr	He	Ser	Arg	Pro	Leu	Val
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Asp	Glu	Cys	Ala	Thr	Asp	Ser	His	Gln	Cys	Asn	Pro	Thr	Gln	He	Cys
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He	Asn	Thr	Glu	Gly	Gly	Tyr	Thr	Cys	Ser	Cys	Thr	Asp	Gly	Tyr	Trp
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Asn	Glu	Cys	Glu	Thr	Glu	Asn	Pro	Cys	Val	Gln	Thr	Cys	Val	Asn	Thr
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lle	Asn	Glu	Cys	Glu	His	Arg	Asn	His	Thr	Cys	Thr	Ser	Leu	Gln	Thr
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Cys	Tyr	Asn	Leu	Gln	Gly	Gly	Phe	Lys	Cys	He	Asp	Pro	Ile	Ser	Cys
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Glu	Glu	Pro	Tyr	Leu	Leu	Ile	Gly	Glu	Asn	Arg	Cys	Met	Cys	Pro	Ala
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Glu	His	Thr	Ser	Cys	Arg	Asp	Gln	Pro	Phe	Thr	Ile	Leu	Tyr	Arg	Asp
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Gln	Ala	Thr	Thr	Arg	Tyr	Pro	Gly	Ala	Tyr	Tyr	He	Phe	Gln	Ile	Lys
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Ser	Gly	Asn	Glu	Gly	Arg	Glu	Phe	Tyr	Met	Arg	Gln	Thr	Gly	Pro	He
			365					370					375		
Ser	Ala	Thr	Leu	Val	Met	Thr	Arg	Pro	Ile	Lys	Gly	Pro	Arg	Asp	He
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Gln	Leu	Asp	Leu	Glu	Met	lle	Thr	Val	Asn	Thr	Val	Пе	Asn	Phe	Arg
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<210 - 2

 $\leq 211 + 1344$ 

 $\pm 212 \pm DNA$ 

4213 Mus musculus

<4001 2

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gtteetgetg acatetteea gatgeaagea acaaceegat accetggtge etattacatt 1140
tteeagatea aatetggeaa egagggtega gagttetata tgeggeaaac agggeetate 1200
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atatatgtgt egeagtatee gtte

- -210 3
- +211 + 2233
- 212 DNA
- · 213 · Mus musculus
- · 220 ·
- $\cdot\,223$  · Clone mouse A55 derived from Day 13 mouse embryonic heart
- · 220 ·
- · 221 · CDS
- +222 + (75).. (1418)
- · 220 ·
- ·221 sig\_peptide
- · 222 · (75).. (143)
- 220
- \*221 mat\_peptide
- <222 (144).. (1418)

/ 1	00	\ 0	
< · ±	00	> 3	

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> -20-15

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aac ggc ttt gac ctg gac cgc cag tca gga cag tgt cta gat att gat Asn Gly Phe Asp Leu Asp Arg Gln Ser Gly Gln Cys Leu Asp Ile Asp 10 15 20

gaa tgc cgg acc atc cct gag gct tgt cgt ggg gac atg atg tgt gtc 254 Glu Cys Arg Thr Ile Pro Glu Ala Cys Arg Gly Asp Met Met Cys Val 25 30 35

aac cag aat ggc ggg tat ttg tgc atc cct cga acc aac cca gtg tat Asn Gln Asn Gly Gly Tyr Leu Cys Ile Pro Arg Thr Asn Pro Val Tyr 40 45 50

cga ggg cct tac tca aat ccc tac tct aca tcc tac tca ggc cca tac 350 Arg Gly Pro Tyr Ser Asn Pro Tyr Ser Thr Ser Tyr Ser Gly Pro Tyr 55 60

65

cca gca gcg gcc cca cca gta cca gct tcc aac tac ccc acg att tca 398 Pro Ala Ala Ala Pro Pro Val Pro Ala Ser Asn Tyr Pro Thr Ile Ser 70 75 80 85

agg cct ctt gtc tgc cgc ttt ggg tat cag atg gat gaa ggc aac cag Arg Pro Leu Val Cys Arg Phe Gly Tyr Gln Met Asp Glu Gly Asn Gln •

				90	ı				95					100	}	
tgt	gtg	gat	gtg	gac	gag	tgt	gca	аса	gac	tca	cac	cag	tgo	e aac	cct	494
Cys	Val	Asp	Val	Asp	Glu	Cys	Ala	Thr	Asp	Ser	His	Gln	Cys	Asn	Pro	
			105					110	ı				115	,		
acc	cag	atc	tgt	atc	aac	act	gaa	gga	ggt	tac	acc	tgc	tcc	tgc	acc	542
Thr	Gln	He	Cys	He	Asn	Thr	Glu	Gly	Gly	Tyr	Thr	Cys	Ser	Cys	Thr	
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Asp	Gly	Tyr	Trp	Leu	Leu	Glu	Gly	Gln	Cys	Leu	Asp	He	Asp	Glu	Cys	
	135					140					145					
cgc	tat	ggt	tac	tgc	cag	cag	cte	tgt	gca	aat	gtt	сса	gga	tcc	tat	638
Arg	Tyr	Gly	Tyr	Cys	Gln	Gln	Leu	Cys	Ala	Asn	Val	Pro	Gly	Ser	Tyr	
150					155					160					165	
tcc	tgt	aca	tgc	aac	cct	ggt	ttc	acc	ctc	aac	gac	gat	gga	agg	tct	686
Ser	Cys	Thr	Cys	Asn	Pro	Gly	Phe	Thr	Leu	Asn	Asp	Asp	Gly	Arg	Ser	
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tgc	caa	gat	gtg	aac	gag	tgc	gaa	act	gag	aat	ccc	tgt	gtt	cag	acc	734
Cys	Gln	Asp	Val	Asn	Glu	Cys	Glu	Thr	Glu	Asn	Pro	Cys	Val	Gln	Thr	
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Cys	Val	Asn	Thr	Tyr	Gly	Ser	Phe	He	Cys	Arg	Cys	Asp	Pro	Gly	Tyr	
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Glu	Leu	Glu	Glu	Asp	Gly	He	His	Cys	Ser	Asp	Met	Asp	Glu	Cys	Ser	
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ttc	tcc	gag	ttc	ctc	tot	caa	cac	σασ	tat	στσ	aac	cad	cca	aac	tra	979

· \

Phe	Ser	Gli	ı Phe	e Leu	ı Cys	Glr	His	s Glu	Cys	: Val	Asr	ı Glr	Pro	Gly	Ser	
230					235					240	)				245	
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Tyr	Phe	Cys	Ser	Cys	Pro	Pro	Gly	Tyr	Val	Leu	Leu	. Asp	Asp	Asn	Arg	
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agc	tgc	cag	gat	atc	aat	gaa	tgt	gag	cac	cga	аас	cac	acg	tgt	acc	974
Ser	Cys	Gln	Asp	He	Asn	Glu	Cys	Glu	His	Arg	Asn	His	Thr	Cys	Thr	
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Ser	Leu	Gln	Thr	Cys	Tyr	Asn	Leu	Gln	Gly	Gly	Phe	Lys	Cys	He	Asp	
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310					315					320					325	
ctg	tat	cgg	gac	atg	gat	gtg	gtg	tca	gga	cgc	tcc	gtt	cct	gct	gac	1166
Leu	Tyr	Arg	Asp	Met	Asp	Val	Val	Ser	Gly	Arg	Ser	Val	Pro	Ala	Asp	
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He	Phe	Gln	Met	Gln	Ala	Thr	Thr	Arg	Tyr	Pro	Gly	Ala	Tyr	Tyr	Ile	
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Phe	Gln	He	Lys	Ser	Gly	Asn	Glu	Gly	Arg	Glu	Phe	Tyr	Met	Arg	Gln	
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cct cgg gac atc cag ctg gac ttg gag atg atc act gtc aac act gtc 1358 Pro Arg Asp {le Gln Leu Asp Leu Glu Met Ile Thr Val Asn Thr Val 390 395 400 405

ate aac tte aga gge age tee gtg ate ega etg egg ata tat gtg teg 1406 Ile Asn Phe Arg Gly Ser Ser Val Ile Arg Leu Arg Ile Tyr Val Ser 410

415

420

cag tat ccg ttc tgagcctctg gctaaggcct ctgacactgc ctttcaccag 1458 Gln Tyr Pro Phe

425

caccgaggga cgggaggaga aaggaaacca gcaagaatga gagcgagaca gacattgcac 1518 ettteetget gaatatetee tgggggeate ageetageat ettgaceeat atetgtaeta 1578 ttgcagatgg tcactetgaa ggacaceetg ceetcagtte etatgatgca gttatecaaa 1638 agtgttcatc ttagcccctg atatgaggtt gccagtgact cttcaaagcc ttccatttat 1698 ttccatcgtt ttataaaaaa gaaaatagat tagatttgct ggggtatgag tcctcgaagg 1758 ttcaaaagac tgagtggctt geteteacet etteetetee tteetecate tettgetgea 1818 ttgctgcttt gcaaaagtcc tcatgggctc gtgggaaatg ctgggaatag ctagtttgct 1878 tettgeatgt tetgagaagg etatgggaac acaccacage aggategaag gtttttatag 1938 agtetatttt aaaateacat etggtatttt eageataaaa gaaattttag ttgtetttaa 1998 aatttgtatg agtgtttaac citticitat toattitgag gottottaaa giggtagaat 2058 teetteeaaa ggeeteagat acatgitatg tieagtetti eeaaceteat eettieetge 2118 atettagece agittitaeg aagaeeeett aateatgett inttaagagi tittaeeeaa 2178 ctgcgttgga agacagaggt atccagactg attaaataat tgaagaaaaa aaaaa 2233

130

-(21)	0 - 4														
:121	1 · 4	23													
121	2 · P	RT													
21	3 · M	us m	uscu	lus											
400	0. 4														
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1				5					10					15	
Asp	lle	Asp	Glu	Cys	Arg	Thr	He	Pro	Glu	Ala	Cys	Arg	Gly	Asp	Met
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Met	Cys	Val	Asn	Gln	Asn	Gly	Gly	Tyr	Leu	Cys	He	Pro	Arg	Thr	Asn
		35					40					45			
Pro	Val	Tyr	Arg	Gly	Pro	Tyr	Ser	Asn	Pro	Tyr	Ser	Thr	Ser	Tyr	Ser
	50					55					60				
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65					70					75					80
Thr	Ile	Ser	Arg	Pro	Leu	Val	Cys	Arg	Phe	Gly	Tyr	Gln	Met	Asp	Glu
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Gly	Asn	Gln	Cys	Val	Asp	Val	Asp	Glu	Cys	Ala	Thr	Asp	Ser	His	Gln
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Cys	Asn	Pro	Thr	Gln	Ile	Cys	Ile	Asn	Thr	Glu	Gly	Gly	Tyr	Thr	Cys
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140

Ser Cys Thr Asp Gly Tyr Trp Leu Leu Glu Gly Gln Cys Leu Asp Ile

Asp Glu Cys Arg Tyr Gly Tyr Cys Gln Gln Leu Cys Ala Asn Val Pro

135

145					150	ı				155					160
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Pro	Gly	Tyr	Glu	Leu	Glu	Glu	Asp	Gly	He	His	Cys	Ser	Asp	Met	Asp
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Pro	Gly	Ser	Tyr	Phe	Cys	Ser	Cys	Pro	Pro	Gly	Tyr	Val	Leu	Leu	Asp
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Asp	Asn	Arg	Ser	Cys	Gln	Asp	He	Λsn	Glu	Cys	Glu	His	Arg	Asn	His
			260					265	, ,				270		
Thr	Cys	Thr	Ser	Leu	Gln	Thr	Cys	Tyr	Asn	Leu	Gln	Gly	Gly	Phe	Lys
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Cys	Ile	Asp	Pro	Ile	Ser	Cys	Glu	Glu	Pro	Tyr	Leu	Leu	Пе	Gly	Glu
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	Arg	Cys	Met	Cys	Pro	Ala	Glu	His	Thr	Ser	Cys	Arg	Asp	Gln	Pro
305					310					315					320
Phe	Thr	He	Leu	Tyr	Arg	Asp	Met	Asp	Val	Val	Ser	Gly	Arg	Ser	Val
				325					330					335	
Pro	Ala	Asp	lle	Phe	Gln	Met	Gln	Ala	Thr	Thr	Arg	Tyr	Pro	Gly	Ala
			340					345					350		
Tyr	Tyr	He	Phe	Gln	He	Lys	Ser	Gly	Asn	Glu	Gly	Arg	Glu	Phe	Tyr

355 360 365

Met Arg Gln Thr Gly Pro IIe Ser Ala Thr Leu Val Met Thr Arg Pro
370 375 380

Ile Lys Gly Pro Arg Asp Ile Gln Leu Asp Leu Glu Met Ile Thr Val 385 390 395 400

Asn Thr Val IIe Asn Phe Arg Gly Ser Ser Val IIe Arg Leu Arg IIe

405
410
415

Tyr Val Ser Gln Tyr Pro Phe

420

1210 - 5

 $\pm 211 \pm 1269$ 

.212 DNA

·213 Mus musculus

400 5

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. 210 . 6

+211 + 461

+212 + PRT

·213 · Mus musculus

400 6

Met Gly Pro Arg Ser Phe Glu Pro Met His Ser Gly Leu Cys Arg Gln
-35 -30 -25

Arg Arg Met Ile Leu Thr Val Thr Ile Leu Ala Leu Trp Leu Pro His
-20 -15 -10 -5

Pro Gly Asn Ala Gln Gln Gln Cys Thr Asn Gly Phe Asp Leu Asp Arg

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Gln	Ser	Gly	Gln	cys Cys	Leu	Asr	o Ile	Asp	Glu	Cys	Arg	Thr	· He	· Pro	Glı
		15	5				20	)				25			
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Cys	He	Pro	Arg	Thr	Asn	Pro	Val	Tyr	Arg	Gly	Pro	Tyr	Ser	Asn	Pro
45					50					55					60
Tyr	Ser	Thr	Ser	Tyr	Ser	Gly	Pro	Tyr	Pro	Ala	Ala	Ala	Pro	Pro	Val
				65					70					75	
Pro	Ala	Ser	Asn	Tyr	Pro	Thr	He	Ser	Arg	Pro	Leu	Val	Cys	Arg	Phe
			80					85					90		
Gly	Tyr	Gln	Met	Asp	Glu	Gly	Asn	Gln	Cys	Val	Asp	Val	Asp	Glu	Cys
		95					100					105			
Ala	Thr	Asp	Ser	His	Gln	Cys	Asn	Pro	Thr	G1n	He	Cys	Ιlе	Asn	Thr
	110					115					120	-			
Glu		G1v	Tvr	Thr	Cvs		Cys	Thr	Asn	Glv		Trn	Leu	Leu	Glu
125			Í		130		- ,			135	- , -	1-	200	200	140
	Gln	Cvs	Leu	Asn		Asn	Glu	Cvc	Ara		Gly	Tur	Cyc	Cln	
Oly	0111	Cys	Leu		110	лэр	Olu	Cys		1 9 1	Gly	1 9 1	Cys		0111
Ι	C	A 1 -	<b>A</b>	145	r)	C.1	C	T	150	a	T.I.			155	
Leu	Cys	Ala		vai	Pro	ыу	Ser		Ser	Cys	lhr	Cys		Pro	Gly
			160					165					170		
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		175					180					185			
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Phe	He	Cys	Arg	Cys	Asp	Pro	Gly	Tyr	Glu	Leu	Glu	Glu	Asp	Gly	Ile

205					210	ı				218					220
His	Cys	Ser	· Asp	Met	Asp	Glu	Cys	Ser	Phe	Ser	Glu	Phe	Leu	Cys	Gln
				225	;				230	)				235	
His	Glu	Cys	s Val	Asn	Gln	Pro	Gly	Ser	Tyr	Phe	Cys	Ser	Cys	Pro	Pro
			240	)				245					250		
Gly	Tyr	Val	Leu	Leu	Asp	Λsp	Asn	Arg	Ser	Cys	Gln	Asp	lle	Asn	Glu
		255	·				260					265			
Cys	Glu	His	Arg	Asn	His	Thr	Cys	Thr	Ser	Leu	Gln	Thr	Cys	Tyr	Asn
	270					275					280				
Leu	Gln	Gly	Gly	Phe	Lys	Cys	He	Asp	Pro	He	Ser	Cys	Glu	Glu	Pro
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Tyr	Leu	Leu	He	Gly	Glu	Asn	Arg	Cys	Met	Cys	Pro	Ala	Glu	His	Thr
				305					310					315	
Ser	Cys	Arg	Asp	Gln	Pro	Phe	Thr	He	Leu	Tyr	Arg	Asp	Met	Asp	Val
			320					325					330		
Val	Ser	Gly	Arg	Ser	Val	Pro	Ala	Asp	He	Phe	Gln	Met	Gln	Ala	Thr
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	350					355					360				
Glu	Gly	Arg	Glu	Phe	Tyr	Met	Arg	Gln	Thr	Gly	Pro	He	Ser	Ala	Thr
365					370					375					380
Leu	Val	Met	Thr	Arg	Pro	Ile	Lys	Gly	Pro	Arg	Asp	He	Gln	Leu	Asp
				385					390					395	
Leu	Glu	Met	He	Thr	Val	Asn	Thr	Val	He	Asn	Phe	Arg	Gly	Ser	Ser
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Val	He	Arg	Leu	Arg	Πle	Tyr	Val	Ser	Gln	Tyr	Pro	Phe			

<210 → 7

 $\leq 212 \leq DNA$ 

-1213 · Mus musculus

 $\{400\}$  7

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16/26

ggtgaaaacc getgtatgtg teetgetgag cacaccaget geagagaeea gecatteace 1080 ateetgtate gggaeatgga tgtggtgtea ggaegeteeg tteetgetga catetteeag 1140 atgeaageaa caaccegata ceetggtgee tattacattt teeagateaa atetggeaac 1200 gagggtegag agttetatat geggeaaaca gggeetatea gtgeeaceet ggtgatgaea 1260 egeeceatea aagggeeteg ggaeateeag etggaettgg agatgateae tgteaaeact 1320 gteateaact teagaggeag eteegtgate egaetgega tatatgtgte geagtateeg 1380 tte

- -1210 + 8
- -211 2429
- + 212 + DNA
- ·213 · Mus musculus
- · 220 ·
- ·223 · Clone mouse A55b derived from Day 13 mouse embryonic heart
- 220 -
- · 221 · CDS
- -222 (232).. (1614)
- · 220 ·
- ·221 · sig\_peptide
- +222 (232).. (339)
- <.220>

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<22	(22)	340)	(1	614)												
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ctc	cgaa	cac	ttct	gtct	gc <b>g</b>	tttg	ctct	a tg	tgtg	tgat	tta	caga	ggg	a ate	g gga	237
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Pro	Arg	Ser	Phe	Glu	Pro	Met	His	Ser	Gly	Leu	Cys	Arg	Gln	Arg	Arg	
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Met	Ile	Leu	Thr	Val	Thr	He	Leu	Ala	Leu	Trp	Leu	Pro	His	Pro	Gly	
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Asn	Ala	Gln	Gln	G1n	Cys	Thr	Asn	Gly	Phe	Asp	Leu	Asp	Arg	Gln	Ser	
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Gly	Gln	Cys	Leu	Asp	Ile	Asp	Glu	Cys	Arg	Thr	Ile	Pro	Glu	Ala	Cys	
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cgt	ggg	gac	atg	atg	tgt	gtc	aac	cag	aat	ggc	ggg	tat	ttg	tgc	atc	477
Arg	Gly	Asp	Met	Met	Cys	Val	Asn	Gln	Asn	Gly	Gly	Tyr	Leu	Cys	He	
				35					40					45		

525

cct cga acc aac cca gtg tat cga ggg cct tac tca aat ccc tac tct

Pro	Arg	Thr	Asn	Pro	Val	Tyr	Arg	Gly	Pro	Tyr	Ser	· Asr	Pro	Туп	r Ser	-
			50	)				55	,				60	)		
aca	tcc	tac	tea	ggc	cca	tac	cca	gca	gcg	gcc	cca	cca	gta	cca	gct	573
Thr	Ser	Tyr	Ser	Gly	Pro	Tyr	Pro	Ala	Ala	Ala	Pro	Pro	Val	Pro	o Ala	
		65					70					75	i			
tee	aac	tac	ссс	acg	att	tca	agg	cct	ctt	gtc	tgc	cgc	ttt	ggg	tat	621
Ser	Asn	Tyr	Pro	Thr	He	Ser	Arg	Pro	Leu	Val	Cys	Arg	Phe	Gly	/ Tyr	
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cag	atg	gat	gaa	ggc	aac	cag	tgt	gtg	gat	gtg	gac	gag	tgt	gca	aca	669
Gln	Met	Asp	Glu	Gly	Asn	Gln	Cys	Val	Asp	Val	Asp	Glu	Cys	Ala	Thr	
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gac	tca	cac	cag	tgc	aac	cct	acc	cag	atc	tgt	atc	aac	act	gaa	gga	717
Asp	Ser	His	Gln	Cys	Asn	Pro	Thr	Gln	Пlе	Cys	Ile	Asn	Thr	Glu	Gly	
				115					120					125	;	
ggt	tac	acc	tgc	tcc	tgc	acc	gat	ggg	tac	tgg	ctt	ctg	gaa	ggg	cag	765
Gly	Tyr	Thr	Cys	Ser	Cys	Thr	Asp	Gly	Tyr	Trp	Leu	Leu	Glu	Gly	Gln	
			130					135					140			
tgc	cta	gat	att	gat	gaa	tgt	cgc	tat	ggt	tac	tgc	cag	cag	ctc	tgt	813
Cys	Leu	Asp	Ile	Asp	Glu	Cys	Arg	Tyr	Gly	Tyr	Cys	Gln	Gln	Leu	Cys	
		145					150					155				
gca	aat	gtt	cca	gga	tcc	tat	tcc	tgt	aca	tgc	aac	cct	ggt	ttc	acc	861
Ala	Asn	Val	Pro	Gly	Ser	Tyr	Ser	Cys	Thr	Cys	Asn	Pro	Gly	Phe	Thr	
	160					165					170					
ctc	aac	gac	gat	gga	agg	tct	tgc	caa	gat	gtg	aac	gag	tgc	gaa	act	909
Leu	Asn	Asp	Asp	Gly	Arg	Ser	Cys	Gln	Asp	Val	Asn	Glu	Cys	Glu	Thr	
175					180					185					190	

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Glu	ı Asn	Pro	Cys	Val	Gln	Thr	Cys	s Val	Asn	Thr	Tyr	Gly	Ser	Phe II	. С
				195	j				200					205	
tgc	cgc	tgt	gac	cca	gga	tat	gaa	ctt	gag	gaa j	gat	ggc :	att o	eac tge	100
Cys	Arg	Cys	Asp	Pro	Gly	Tyr	Glu	ı Leu	Glu	Glu	Asp	Gly	He	His Cy	'S
			210					215					220		
agt	gat	atg	gac	gag	tgc	agc	ttc	tcc	gag	ttc (	ctc	tgt (	caa c	cac gag	1053
Ser	Asp	Met	Asp	Glu	Cys	Ser	Pho	Ser	Glu	Phe	Leu	Cys	Gln	His Gl	u
		225					230	•				235			
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Cys	Val	Asn	Gln	Pro	Gly	Ser	Tyr	Phe	Cys	Ser	Cys	Pro	Pro	Gly Ty	r
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Val	Leu	Leu	Asp	Asp	Asn	Arg	Ser	Cys	G1n	Asp	He	Asn	Glu	Cys Gl	u
255					260					265				27	0
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His	Arg	Asn	His	Thr	Cys	Thr	Ser	Leu	Gln	Thr	Cys	Tyr	Asn	Leu Gl	n
				275					280					285	
ggg	ggc	ttc	aaa	tgt	att	gat	ссс	atc a	agc t	gt g	gag g	gag c	ct t	at ctg	1245
Gly	Gly	Phe	Lys	Cys	Ile	Asp	Pro	He	Ser	Cys	Glu	Glu	Pro	Tyr Le	u
			290					295					300		
ctg	att	ggt	gaa	aac	cgc	tgt:	atg	tgt d	ect g	ct g	ag c	ac a	сс а	go tgo	1293
Leu	He	Gly	Glu	Asn	Arg	Cys	Met	Cys	Pro	Ala	Glu	His	Thr	Ser Cy:	S
		305					310					315			
aga	gac	cag	сса	ttc	acc :	atc (	ctg	tat c	egg g	ac a	tg g	at g	tg g	tg tca	1341
Arg	Asp	Gln	Pro	Phe	Thr	He	Leu	Tyr	Arg	Asp	Met	Asp	Val	Val Sei	r

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gga ege tee gtt eet	get gae ate	ttc cag atg	caa gca ac	a acc cga	1389
Gly Arg Ser Val Pro	Ala Asp Ile	Phe Gln Me	t Gln Ala T	hr Thr Arg	
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tac cct ggt gcc tat	tac att ttc	cag atc aaa	tet gge aa	c gag ggt	1437
Tyr Pro Gly Ala Tyr	Tyr lle Phe	Gln Ile Ly	s Ser Gly A	sn Glu Gly	
355		360		365	
cga gag ttc tat atg	cgg caa aca	ggg cct atc	agt gcc ac	c ctg gtg	1485
Arg Glu Phe Tyr Met	Arg Gln Thr	Gly Pro II	e Ser Ala T	hr Leu Val	
370		375	3	80	
atg aca cgc ccc atc	aaa ggg cct	cgg gac atc	cag ctg gad	c ttg gag	1533
Met Thr Arg Pro Ile	Lys Gly Pro	Arg Asp Ile	e Gln Leu A	sp Leu Glu	
385	390		395		
atg atc act gtc aac	act gtc atc	aac ttc aga	ggc agc tco	e gtg atc	1581
Met Ile Thr Val Asn	Thr Val Ile	Asn Phe Arg	g Gly Ser S	er Val Ile	
400	405		410		
cga ctg cgg ata tat	gtg tcg cag t	tat ccg ttc	tgagcctctg	gctaaggcct	1634
Arg Leu Arg Ile Tyr	Val Ser Gln	Tyr Pro Phe	9		
415	420	428	ō		
ctgacactgc ctttcacca	g caccgaggga	cgggaggaga	aaggaaacca	gcaagaatga	1694
gagcgagaca gacattgca	c ctttcctgct	gaatatetee	tgggggcatc	agcctagcat	1754
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cttcaaagcc ttccattta	t ttccatcgtt	ttataaaaaa	gaaaatagat	tagatttgct	1934

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intiaagagi tittaceeaa eigegiigga agaeagaggi ateeagaetg attaaataat 2414
tgaagaaaaa aaaaa

-210 - 9

+211 + 423

+212 - PRT

-213 Mus musculus

400. 9

Gln Cys Thr Asn Gly Phe Asp Leu Asp Arg Gln Ser Gly Gln Cys Leu

1 5 10 15

Asp lle Asp Glu Cys Arg Thr lle Pro Glu Ala Cys Arg Gly Asp Met
20 25 30

Met Cys Val Asn Gln Asn Gly Gly Tyr Leu Cys Ile Pro Arg Thr Asn
35 40 45

Pro Val Tyr Arg Gly Pro Tyr Ser Asn Pro Tyr Ser Thr Ser Tyr Ser
50 55 60

Gly Pro Tyr Pro Ala Ala Ala Pro Pro Val Pro Ala Ser Asn Tyr Pro 65 70 75 80

Thr Ile Ser Arg Pro Leu Val Cys Arg Phe Gly Tyr Gln Met Asp Glu

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Cys	Asn	Pro	Thr	Gln	He	Cys	He	Asn	Thr	Glu	Gly	Gly	Tyr	Thr	Cys
		115					120					125			
Ser	Cys	Thr	Asp	Gly	Tyr	Trp	Leu	Leu	Glu	Gly	Gln	Cys	Leu	Asp	He
	130					135					140				
Asp	Glu	Cys	Arg	Tyr	Gly	Tyr	Cys	Gln	G1n	Leu	Cys	Ala	Asn	Val	Pro
145					150					155					160
Gly	Ser	Tyr	Ser	Cys	Thr	Cys	Asn	Pro	Gly	Phe	Thr	Leu	Asn	Asp	Asp
				165					170					175	
Gly	Arg	Ser	Cys	Gln	Asp	Val	Λsn	Glu	Cys	Glu	Thr	Glu	Asn	Pro	Cys
			180					185					190		
Val	Gln	Thr	Cys	Val	Asn	Thr	Tyr	Gly	Ser	Phe	He	Cys	Arg	Cys	Asp
		195					200					205			
Pro	Gly	Tyr	Glu	Leu	Glu	Glu	Asp	Gly	Ile	His	Cys	Ser	Asp	Met	Asp
	210					215					220				
Glu	Cys	Ser	Phe	Ser	Glu	Phe	Leu	Cys	Gln	His	Glu	Cys	Val	Asn	G1n
225					230					235					240
Pro	Gly	Ser	Tyr	Phe	Cys	Ser	Cys	Pro	Pro	Gly	Tyr	Val	Leu	Leu	Asp
				245					250					255	
Asp	Asn	Arg	Ser	Cys	Gln	Asp	He	Asn	Glu	Cys	Glu	His	Arg	Asn	His
			260					265					270		
Thr	Cys	Thr	Ser	Leu	Gln	Thr	Cys	Tyr	Asn	Leu	Gln	Gly	Gly	Phe	Lys
		275					280					285			
Cvs	He	Asp	Pro	Hle	Ser	Cvs	Glu	Glu	Pro	Tvr	Leu	Leu	He	Glv	Glu

	290					295					300				
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Phe	Thr	He	Leu	Tyr	Arg	Asp	Met	Asp	Val	Val	Ser	Gly	Arg	Ser	Val
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Pro	Ala	Asp	He	Phe	Gln	Met	Gln	Ala	Thr	Thr	Arg	Tyr	Pro	Gly	Ala
			340					345					350		
Tyr	Tyr	Ile	Phe	Gln	He	Lys	Ser	Gly	Asn	Glu	Gly	Arg	Glu	Phe	Tyr
		355					360					365			
Met	Arg	Gln	Thr	Gly	Pro	He	Ser	Ala	Thr	Leu	Val	Met	Thr	Arg	Pro
	370					375					380				
Ile	Lys	Gly	Pro	Arg	Asp	He	Gln	Leu	Asp	Leu	Glu	Met	Ile	Thr	Val
385					390					395					400
Asn	Thr	Val	Ile	Asn	Phe	Arg	Gly	Ser	Ser	Val	Ile	Arg	Leu	Arg	He
				405					410					415	
Tyr	Val	Ser	Gln	Tyr	Pro	Phe									
			420												

- 210 - 10

211 1269

 $\pm 212 \pm DNA$ 

3213 Mus musculus

< 400 :- 10

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<sup>(210 - 11)</sup> 

 $<sup>\</sup>le 211 - 35$ 

<sup>&</sup>lt;212 DNA

<sup>&</sup>lt;213 Artificial Sequence</pre>

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hand Mana Yanna ii ga nika anali Na isi Nad		
	$\sim 210 \cdot 12$	
	. 211 · 27	
	· 212 · DNA	
and Jand Yann Kann. H	·213· Artificial Sequence	
	· 220 ·	
]	·223 · Description of Artificial Sequence:mA55 R1 primer	
	< 400) · 12	
	cgtttgtgca ctgctgctgt gcattcc	27